

UNITED STATES OF AMERICA



FOUNDED 1836

WASHINGTON, D.C.



Library of Congress reports 1st leaf blank
18Je45 a3B

AN
INAUGURAL DISSERTATION

Recd 1819

ON THE
INFLUENCE OF ONE DISEASE,

IN THE
CURE OF OTHERS;

SUBMITTED TO THE EXAMINATION OF THE
REV. JOHN EWING, S. T. P. PROVOST;

THE
TRUSTEES AND MEDICAL FACULTY
OF THE
UNIVERSITY OF PENNSYLVANIA,

ON THE TWENTY FIRST DAY OF MAY, 1795,
FOR THE DEGREE OF
DOCTOR OF MEDICINE.

BY ASHTON ALEXANDER,

OF VIRGO

PHILADELPHIA:

PRINTED BY ALEXANDER M'KENZIE,

No. 129, CHESNUT-STREET.

1795.



TO
PHILIP THOMAS, PHYSICIAN
OF MARYLAND.
AND TO
BENJAMIN RUSH, M. D.
PROFESSOR OF THE INSTITUTES,
AND OF
CLINICAL MEDICINE,
IN THE
UNIVERSITY OF PENNSYLVANIA.

THIS *Dissertation, is humbly inscribed, as a
grateful Tribute of Respect, from their much
obliged and very,*

Affectionate pupil,

ASHTON ALEXANDER.

INTRODUCTION.

AS necessity and not the desire of Fame is the motive for appearing thus early in the literary world, this circumstance, should rescue the Author from the implication of presumption, in chusing a subject unattempted before. Disease is so great an evil and so much the enemy of Humanity, that Patients would always be averse from its admission though assured good should arise out of it. But as one disease has been known to cure others, all the Author proposes, is to shew where they have had this effect, and upon what principle, one disease ever cured another.— True principles are the only desiderata in medicine, and it will be found that medicine, as a Science, will be progressive in proportion as true principles are established. The revolution in the mode of prescribing within a few years is astonishing; formerly a prescription was valuable in proportion to the number of ingredients which entered into its composition, now it is so from the paucity; and probably a physician's mind might be measured by his prescriptions; weak if they were complex, strong if they were simple.—This improvement has been accomplished by principles; and simplicity will succeed the quakery of medicine in proportion as just ones are acquired. There have been physicians since the days of the Empericks, who have decried every thing in the practice of physic,

I N T R O D U C T I O N.

but fact and experience ; waving the proved objection “that as many false facts, & as much false experience have been recorded in the history of physic, as false theories or principles,” we insist that the facility of acquiring a knowledge of the profession by means of a principle is as easily acquired as of facts, and if true it is impossible ever to forget it, “for truth, according to a celebrated writer cannot be unlearned”—No memory can retain all the facts recorded in medicine; and if it were possible, a man would be a worse Physician for it, for there are so many contradictory facts on the same disease, that he could only prescribe by forgetting them all. One just principle unlocks a thousand facts, explains those which have a seeming contradiction, & so associates them in the mind, that they revive with the most vivid impressions, whenever we recur to the principle with which they were associated. In the old books on materia medica, the history of every article of medicine, concludes with an appropriate application to some particular affection of the human body; what memory could retain this? But since each article is now known to possess some virtue in common with others, it is only necessary to remember the generic distinction—Thus Opium is given to ease pains in every case, but it does not in every case succeed, perhaps not in one half, and where it fails, the disease is aggravated—Admit as a principle that certain states of pain are to be cured by stimulants, and that opium is only preferable to other stimulants because of its more universal operation, and we unlock all the mysteries of this *invaluable* medicine which no fact nor false experience could explain either by the raging archæus of Vanhelmont or the Sedative or negative operation of Dr. Cullen.—

SECTION I.

INDOLENCE, I believe the most prominent propensity of man, if we trace his character from the savage of America, to the professors of science. Is it then to be wondered that Dr. Brown's system of medicine; should find so many admirers. The science of medicine acquired by former systems was painful, tedious and operose. But when acquired by so pleasant, so light and so speculative a system as Dr. Brown's, it is perhaps the most easy acquirement which can be imposed upon the human mind; it is the business of a day, 'tis to remember there is no local disease, to which the body can be liable. The doctor meant this or nothing, when he says---“ A part is the seat of no general disease, the whole body is the seat of them all, because with the inequality, above related; the whole excitability is affected in them all”—Dr. Brown, was lead into this error, by another in its consequences of greater magnitude,—“ That pleurisy, consumption, and several other diseases were local. The beauty of truth requires, that we rest not under degrees of error since it is as lovely and as easily attained in medicine as in other sciences. If one diseases even cured another, it can only be explained by considering the body liable to no general, or universal disease.”

The human body, as it stands formed for the emission of life is a complicated machine—the component parts have been divided by a late * writer

* Dr. Rush Yellow Fever.

into nine different systems, as they are not generally known it will be proper to mention them here:—They are 1st.—The Brain and Nerves, 2d.—The Liver Lungs and Alimentary Canal, 3d.—The Sanguiferous System, 4th.—The Muscular, 5th.—The Glandular and Lymphatic, 6th.—The Cutaneous, 7th.—The Secretory and Excretory Organs, 8th.—The Blood, 9th.—The Senses and appetite, all these systems are to be affected in one of two ways, either partially as in disease or generally as in death. Its partial affection alone, is here to be considered—but previously I must premise two propositions indispensably necessary in this dissertation.—My first proposition is, that disease consists in unequal excitement together with excess or deficiency of Excitability. The reverse of this proposition constitutes health. In health all the systems have just proportions of Excitability and excitement—but in disease all is *disorder*; the first symptom of which is unequal excitement in one or more systems, discoverable by uneasy sensations or pain; I have said discoverable by those effects; for disease may occur in the human body without either, as in the formation of calculus in the liver and bladder, also, in schirrhous, and cases are recorded in medical writings of suppurations in the liver, without pain or any symptom to indicate them. We rise in the morning with a perfect equality of excitement if in health, but the moment the stimuli of the day begin to act upon us there is a tendency to inequality of excitement, which acting till night, leaves our bodies under predisposition from the violence of the stimuli operating thro' the day. In the sanguiferous system there is an increase of excitement and an abstraction from

the muscular system and probably from several others. The muscle which could raise five thousand times its own weight in the morning, is pained at every motion, and the arterie which at the same time beat 65 or 70 small and weak, now beats 80 or 90 full and strong.

A continuance of this irregularity would be disease; but as night comes on, all the stimuli are abstracted except such as support life, and thus leave the excitement to equalize itself. "Sleep has been called a tendency to death," it might, with more propriety be called, a tendency to life. For without night and sleep resulting from it, we must have been formed like Salamanders, or existed as Ephemeras—The wisdom of the Supreme Being, in the Government of this world appears in no instance more stupendous than in the alternation of night, with day. All nature feels its influence, and lives but in the change: but as all things are made subordinate to man, so the benefit of night is more especially intended for him. I have said that it acts as the prevention to physical evil, it also, prevents the Commission of moral, with exceptions applicable to both: But its principle efficacy consists, in the prevention of disease. When the irregularity of excitement is so great, that the transition to disease, is a work of a moment: night kindly abstracts all stimuli, the arterial system gives off the accumulated excitement, abstracted from others, and by the morning leaves all the systems with just proportions of excitement—I have said the body labours under predisposition, to disease every night: predisposition, is that state of one or more systems, in which a small exciting cause, brings on disease, which without this predisposition, would have had no effect:

when the sanguiferous system labours under irregular accumulated excitement, from causes before mentioned, the continuance of those causes, or others of a similar kind one hour, will produce a fever which shall end in death in a few days; the only difference here between the predisposition and the disease consists in this. In predisposition, however accumulated the excitement may be, in a system, there is still a tendency in the excitement to equalize, when the stimulating cause is withdrawn. But in disease, this tendency is lost, though the cause be taken away; in the arterial system a convulsion takes place, by which the excitement becomes so insulated (if the expression may be allowed) as not be conducted off, by any of the other systems, and a permanent, irregularity of excitement, in other words disease, takes place; in this light I consider hereditary predisposition to any disease as consumption, epilepsy, madness, gout, stone, and numerous others, to consist in nothing more than a disposition, which the seats of those diseases have to accumulate excitement, hence a small exciting cause is capable of producing the disease predisposed to. That disease consists in unequal excitement, appears also, from its phenomena, when a patient labours under that particular state of fever denominated pleurisy, he is said by the followers of Brown, to have a general disease; and from the hard tense pulse which attends, a disease of too much strength: I select this disease, because it has been used to exemplify the doctrine. But since the muscular system appears incapacitated to all action, how shall it be explained, that the whole Body labours under too much? It is impossible to explain what has no existence in

nature. The proposition leads me to consider, pleurisy not as a disease of the whole body, but as a disease confined to the arterial system: the proximate cause of which is an accumulation of excitement, in that system, of which the other systems have been deprived, the muscular system, in a particular manner has been deprived of its excitement; this always accumulates the excitability, and in this state any motion is stimulus disproportioned; but particularly the motion of the intercostal muscles, in respiration: that the excitement is accumulated from the other systems, and not from without the body, as Brown's doctrine teaches, is apparent from the cause of pleurisy: this cause is long exposure to cold, which abstracts excitement from the whole body—It may be urged that, bleeding is the only proper remedy in the disease; but bleeding is only a general remedy indirectly, it is as much specific to the arterial system, as the gum fetida, is to the nervous, affecting the other systems through the arterial, as the fetida does through the nervous, and in proportion as the other systems are dependent upon it; thus fainting may be occasioned by bleeding, because the nervous system is dependent upon the arterial, for such a degree of tension in the brain, as will enable it to perform the proper vibrations, or motions of life. If a proper remedy were discovered for pleurisy; its operation would consist in replacing from the arterial, the excitement of which the other systems had been deprived; this would give health, because the excitement would be equal; but until such a remedy be known, bleeding must be the substitute. Bleeding succeeds by wasting the excitement in the arterial system, nearly to an equality with the others, and so gives

the excitement an opportunity to equalize. If the sum of excitement in all the systems be 50, we will suppose a permanent accumulation of 5, in any one system to constitute disease, in the arterial it would constitute fever, but since the other systems have been deprived of excitement as 5, health is reinstated when they are replaced. This I shall hereafter say is sometimes accomplished by stimuli, yet should they act upon the arterial system, the excitement so far from being equalized, might be increased to *indirect debility*, this I will suppose at 60, just practice, therefore to avoid that danger, rejects the use of stimuli; and by a different plan attempts to waste the excitement in the arterial, by bleeding, and purging, to an equality with the other systems; nevertheless, should the inequality continue after the depletion, stimuli may be attempted with safety. The excited system in this case, I suppose to be under 50, and though indirect debility, might be brought on in the first instance, in the second, the excitement would only be raised to 50, the point of health. As the other systems are frequently brought up to the excited system in this way, it is safe, but in the first it is improper, in as much as indirect debility ought always to be avoided. Patients 'tis true have recovered of indirect debility, in the Yellow Fever, under the stimulating treatment, because the debility is so sudden, as easily to be equalized. The system being insensible during the time to stimuli: but indirect debility, brought on in other diseases, is more dangerous, as disorganization, by effusion of water, or blood, is the consequence.—The phenomena of Rheumatism, shew the same inequality of excitement. In this disease, as in Pleurisy, there

is an accumulation of excitement in the arterial system, an abstraction from the muscular, leaving the latter too deficient to perform its offices; the intention in both, is to equalize the excitement, and the method of treatment the same: In convulsions, the excitement is accumulated in the muscular system, and abstracted from the arterial and other systems, this inequality appears in the pulse, which is slow and weaker than in health, however as fever sometimes occurs, it shews the arterial participates in the accumulation: this ought to be noticed, for whenever it occurs bleeding is more proper, it increases the determination to the arterial, where the accumulation is much more safe, than the muscular. This is so striking, that the arterial system seems to be the grand Magazine of excitement, in which all the superfluous excitement is deposited and from whence it is carried out of the body by means of the excretions, or remains to supply the wants of the other systems. This obtains very remarkably in consumption, the excitement is accumulated in the arteries and from thence conducted off so perfectly that none of the systems appear to be affected for some time: Debility attends, but as the excitement is nearly equal from the superfluous quantity discharged every night; the only inconvenience which the patient appears to suffer is in bulk; that this is really the case may be inferred from the different effect which metastasis of the excitement from the lungs to the head has upon the body; when accumulated in this instance it cannot be evacuated, and the body labours under great inconvenience. The above consideration of the Phenomina of diseases, I think prove, that they depend upon unequal excitement. This

will appear more clearly in the consideration of the proximate cause of diseases : But as the metastases of disease has been mentioned, it may be proper to consider them in this place.

S E C T I O N II.

While the Phenomina of all diseases, were explained by Physicians, upon the morbid theory, great difficulties arose in the consideration of metastasis ; it was easy to conceive, upon their theory that morbid matter repelled from a fore leg, might produce a consumption, because here the *matter* had been the object of their senses, and whenever disease was the effect of repulsion of any eruption from the surface of the body, they attributed it, to a metastasis of the specific matter. In repelled Small-Pox, and Measles ; it appeared to them selfevident that the matter was translated from the surface or cutaneous system to some internal part.——But when they came to consider the sudden translations or metastasis in the Gout their theory must have failed. It was difficult to conceive that matter, in their acceptation of the word, could pass with the velocity of light, from one great toe to the other, and as suddenly return, yet this occurs in gout a disease according to their theory depending upon morbid matter—In Pleurisy the pain passes from the side to the breast and from one side to the other, in an instant of time.—But how this should be matter, is not easy to conceive. The Aura Epileptica must have excited astonishment but never could *excite*

an explanation upon the morbid theory.—I shall consider metastasis as nothing more than excitement unequal or out of place, not differing in any one respect from that excitement which in proper place composes the health of the body. I may be asked; do not diseases proceed from accrimonious eruptions repelled from the surface? and are not those eruptions admitted to depend upon accrimony? to this I answer, that internal diseases certainly, have originated from repelled eruptions, yet as I deny any specific accrimony exists even in the eruptions I shall certainly deny it in the internal diseases; when the morbid theory of fever was expelled the schools as untrue, a proviso was annexed, by which it was to be admitted in some cases. It was granted that fever from the sensible qualities of the air did not originate in morbid matter, but it was maintained that fever from specific contagion certainly did, and they instanced small-pox, where the matter conveyed into the system, was the object of our senses. Admitting the matter of contagion to be conveyed into the system, and there to produce fever, let us see how far this may be justly explained upon different principles; every thing which affects the human body must do it by one of two operations; as stimulant, or sedative, if this be admitted which cannot be denied medicine and food are similar, differing only in the degrees of their operation; all medicine is stimulant, or sedative; so is whatever produces disease in the body; as therefore whatever stimulates the body produces excitement, so whenever the excitement is increased to disease the cause is stimulus applied, now whither the stimulus resided in the variolus morbillous, or any other matter the excitement is the same, differing only in degree and specific operations. But a

specific operation is equally discoverable, in those stimuli denominated food, as in those called medicine; Asparagus, parsley, the alliaceæ, mustard, and many other articles of diet have a specific operation upon the glandular system, or kidnies, Squills, Digittalis, Cantharides, have the same; If it were necessary to continue the parallel all the medicine now discovered might be aduced; but the analogy of quality appears strong in this, that articles of diet are alternately medicine and food; Figs, Pruins, Mustard and many others, are used either as food or medicine. Milk so general an article of diet, is to some persons equally purgative with Calomel, and from its having that effect in discharging the meconium of Infants, 'tis probably a property, it has in common with other purgatives. It is not an objection that the same effect does not continue; the most violent purgatives require, to be increased if the same effects are wished; the power of habit, in wasting the excitability by the application of any stimulant. is evident in the use of Tobacco, and opium. Instances are not wanting to shew that the stimulus of food, has produced the same specific operation upon the body, that it feels from contagion;—* A dinner of the Dolphin fish, gave the Sailors who consumed it a fever and an efflorescence over the whole body;—† A diet of Bullocks liver, caused the most insupportable affection of the cutaneous system in persons who lived upon it. From what has been said we may fairly conclude no such thing as accrimony, or morbid matter, different from stimuli, as above explained; ever existed in the human body; and that however different and numerous diseases may have been considered, there is but one disease in the world.

* Dr. Rushes Lectures. † Medical Transactions.*

This I define to be irregular excitement, and strange as it may sound, I believe it true, and so consonant to just reasoning that an investigation of disease, upon this principle, would leave the mind more satisfied than upon any other.

S E C T I O N III.

My second Proposition is, that all Pain wherever situated in the Human Body, has for its cause excess of Excitement.

I am sensible this proposition is contrary to received opinion, which makes pain depend upon excess and deficiency of excitement; and would have avoided it, in order to avoid the appearance of singularity, yet it is so much an appendage of the first proposition, that it may be considered a farther explanation of it. I have also the opinion of the great Dr. Hartley, in its favour. On the subject of pleasure and pain, he says “ that the most vigorous of our sensations are termed sensible pleasures and pains; the doctrine of vibrations seems to require, that each pain should differ from the corresponding, and opposite pleasure, not in kind but in degree only, that is, pain should be nothing but pleasure carried beyond a due limit” “ thus an agreeable warmth may be made to pass into a troublesome, or burning heat, by increase, or continuance, and the same holds with respect to friction light and sounds”—If pain does not depend upon excess of excitement always; it originates from deficiency—but if the first, be admitted, and I shew a fallacy in the second, the proposition will be proved.

Pain from sthenic disease is said to originate in excessive excitement, and in proof 'tis said the application of all stimuli increase it. Yet as there are cases of pain seated in the same systems, which are relieved by stimuli, 'tis supposed the cause must be different.—In spasmodic cholick, so called, the pain is cured by spirit, spices, essential oils, æther, and laudanum, which say they, must give an addition of excitement, to the system. This certainly is plausible at first appearance, but is resolvable into this: In the pain arising from diseases of excessive action, the inequality of excitement is as 55, now every attempt to raise the deficient systems up to 55, would in danger fresh accumulation in the affected part, the cure therefore (as before laid down) would consist in wasting the excitement below 50, after which the pain is relieved by stimuli. The accumulation then though irregular is below 50, and as it is easier to bring the systems up to 50, than to reduce the accumulated system lower, stimuli are most proper. No pain can occur, but under one of these circumstances; either there is an accumulation of excitement above 50, or an accumulation below it; neither is it difficult to conceive the same effect in both cases. To equalize the excitement in the first instance depletion is necessary in the second stimuli, both however have their exceptions; it is known that the stimulus of hot drink, the pedeluvium, and a hot bed will cure a plurisy, not long formed. This does not always succeed, nor does the application of stimuli always relieve pain, though the system be below 50; for if the stimuli act upon the accumulated system, it may be soon carried above 50, and require bleeding; this is often witnessed in cholicks. Is it possible to conceive that in one hour, without any sensible al-

✓ teration in the pain, it should proceed from deficiency of excitement in the next from excess. Dr. Rush, lately taught that nervous fever, was cured by bleeding after the 21st. day; here the excitement was so accumulated in the arterial system, though considerably below 50, that nothing but wasting a part could ever equalize it. The tremors in fevers which precede subfultus tendinum, and convulsion, he has also discovered, may be cured by depletion, to the great benefit of mankind; yet how much bark, how many volatile musk bolusses, what deluges of wine, have not these symptoms in fever consumed. This symptom like pain, has been attributed to deficiency of excitement, and the cure attempted always by those things, which should give excitement to those parts. There can not be a doubt, that tremors have in numerous instances been cured by stimulants; but it has been upon the principle above laid down, and the practice can only be just, as that is referred to. A principle must be just, which embraces every phenomenon of the subject, upon which it is founded, this is eminently true of the proposition under consideration, since all pain however different in appearance, is resolvable into it. Does pain from inflammatory cholic, depend upon excess of excitement? So does pain from nervous cholic. Does pain arise from wound in the foot? So it does from gout. Does inflammation of the stomach cause pain? So does retrocedent gout. Is pain from inflammation of the kidneys, owing to excessive excitement? The same is seen in misplaced gout; yet the cure is different. In the first, the cure consists in wasting the excitement, in the second excitement is added. "Truth it is said rests behind, first appearances"---In no case is the observation more just than in the present. Physicians conclude;

pain depends upon two states of action, merely from the different effects of the same medicine, at different times: this is certainly the first appearance, but truth rests behind it. I know it is said, that when stimuli succeed, the body labours under debility, but this is a vague term: the body is in a state of dibility, whenever it is affected by stimuli, disproportioned to excitability! It is the predisposing cause of all disease, exists equally, in the most acute cases of sthenic disease, as in the purely, nervous, or spasmodic, and applies with equal propriety to cases of wounds, as to the chorea St. Viti. But are not instances of pain, from tetanus, and cold, exceptions pointed to the proposition? They are not. Tetanus originates from two causes, the alternation of heat and cold, or some particular irritation of the nervous system. When exposure to cold night air, in tropical climates is the cause: we shall find the patient had been in health, and under circumstances where dibility is least expected, how then can the excitement, resulting from the stimulus of heat, so suddenly be wasted, as to subject the body to disease of too little excitement in a few hours? When the body is exposed to the cold in this passive state, the excitement is thrown into those systems which were deprived of it. The muscular, is perhaps most deprived of excitement, it will require most therefore to equalize it: If the lost excitement could be restored gradually to the muscles, health would be the consequence, but as the cold, has added to the debility, the excitement rushes violently to that system, and becomes locked in spasm; that this is really the case appears from less determination, producing rheumatism fever, &c. whereas were it different, under the same exposure, but one disease could ever occur. Practice

has led to this error ; because pain in the first, is relieved by stimuli, and in the second, by depletion, physicians concluded pain to depend upon a different action in each. The second cause of tetanus is irritation, now irritation of either of the other systems produces increase of excitement and pain ? Irritation of the bladder, occasions fever, and great pain ; so does irritation of the brain, give rise to fever, and convulsions. If it produce excitement in others, why shall it be denied to the muscular ?* The same occurs in fever, from irritation of the nervous system. Probably it depends upon sympathy, since all sympathy, appears resolvable into irregular determination of excitement. I come in the last place, to consider pain from cold : The explanation of cold, with respect to the effects it has on the body, has been until of late unintelligible, and it is even now difficult to explain the pain, resulting from its application, consonant to my proposition. If cold acted by stimulating, as some think, the explanation would be easy, for whatever stimulates produces excitement, proportioned to the impression ; but cold is the absence of heat, which being positive, the absence of it is negative, or thus, if life depends upon heat, the absence of all heat would be death, or cold. Debility may be considered as the prime conductor of excitement, if the body was in an equilibrium, it would only continue so while there was no partial debility ; but as cold gives this debility, the equilibrium is destroyed by its application, and the excitement rushes to maintain its equality, to the debilitated part ; this is accomplished in an instant of time, for the

* It is no objection, that the irritation exists in the nervous system, and the accumulation in the muscular.

moment a part is abstracted by the cold, it is succeeded by fresh excitement, the change of which gives pain. This is illustrated a by fact of universal observation, that the face becomes more red from exposure to cold, than to heat, and explains the universal redness, which appeared over the body of the man, who exposed himself naked in the snow, † viz. that the dibility over the whole surface, occasioned a greater determination of excitement to it, than under any other circumstances. The Phenomenon of death, from cold is resolvable into the same principle, when the cold has so far wasted the excitement, that the tendency to equalize itself, is destroyed, no more pain is perceived, and a strong tendency to sleep succeeds, which ends in death. Should it be said, the loss of sensation, prevents the perception of pain—I answer, that while life continues, there is sensation, and that the pain vanishes long before life. Upon the principle just laid down, I am of opinion, the effects of cold bath, in curing intermittents, and diseases depending upon dibility, may better be explained, than upon any other. All periodical diseases appear to depend upon accumulation of excitement; in quartan, and tertian fevers, the operation of stimuli, accumulates so much excitement in the arterial system, that in a given time fever, as before described, is produced: This however is of short continuance, and ends when the superabundant excitement is thrown off by sweat. The recurrence of the fit happens, when the same quantity of excitement is again collected; which is most likely to occur, in a given time; the same happens in all periodical diseases.—There was lately a case

† Dr. Wistar's Lectures.

of madness, in the *Pennsylvania Hospital*, which recurred in the form of a tertian fever, and which is only different from a tertian, in accumulating the excitement in the brain, rather than the arterial system. Periodical hemorrhagies, are from the same cause: whenever therefore, the cold bath is of advantage, it is by creating such dibility in the cutaneous system, as induces the excitement, which was accumulating in the arterial system, to rush into the cutaneous, where we shall hereafter say, an accumulation may exist, with little detriment to the body. As long as the excitement continues in the cutaneous system, the paroxysm is prevented; but as this cannot be done always, the remedy frequently fails.

I should in the next place proceed to consider the cure of one disease by another; but as the words, excitability and excitement frequently and unavoidably occur, it is necessary to explain what is meant by the terms. By excitability, I mean that property which distinguishes living from dead matter, it is that upon which stimuli act to produce life, and this, as is taught in our university by the professor of institutes, is nothing more than an *effect*. Excitement is the result of stimuli acting upon excitability; this it is true comprehends the definition of life; and probably excitement is nothing more than life. However it is a subject, on which much is to be learned; but the time will come when the Pyrrhonist himself shall acknowledge its identity. Excitement appears convertible into excitability; thus the semen masculinum throws the accelerators into convulsion when much excitement is determined to them; but when they are not excited the semen passes unnoticed. This also occurs in nervous fever, and will explain

Dr. Wood's doubts with respect to the propriety of powerful stimuli in that disease. The conversion of excitement into excitability, appears farther in injuries of bones and ligaments, which have little excitability in health, but in diseases become exquisitely sensible. Dr. Brown says that where the body is debilitated, the excitability is increased and vice versa. This proposition is applicable to those irregularities generally estimated within the boundaries of health, as in drunkenness &c. but does not apply to diseases; thus, in an inflammation of the stomach, the excitability is so great that the admission of one drop of wine gives more pain than a bottle in health; the same applies to all inflammatory diseases; in nervous fevers the excitement is wasted and the excitability also, as appears from the application of blisters giving no pain and from the great quantity of stimuli necessary to resuscitate departing life.

SECTION IV.

DISEASES CURE OTHERS.

This will appear more conspicuous by considering.—
1st. How far the presence of one disease in the body, prevents the admission of others.—2d. What diseases have cured others, and upon what principle.—3d. The application to practice.

And first, one disease preventive of others, in proportion as it is general in the system. No disease can be universal in the body, from what has been said; but as some systems are more general than others, whenever a disease is situated in

one of them, it more certainly prevents the admission of others. It is from this cause that fever is the greatest preventive of other diseases; madness perhaps excepted—Fever has its seat in the arterial system, which must be acknowledged the most general. It consists in an increased excitement of that system, and may exist independent of any other affection, as in consumption without ulcer, and in gout placed in the arterial system; all violent contagious diseases as plague, yellow fever, small-pox, measles, &c. have their seats in this system; other systems become affected, as the glandular in the plague, the liver in the yellow fever, and the cutaneous system in the small-pox; but the primary affection is in the arterial. These diseases originate from the stimuli of contagions which only differ from other stimuli in their specific determination.—Now although, contagion as a stimulant may affect the system, already under the impression of another, and increase the excitement; yet no specific effects are to be seen except those of the first contagion; from which it would appear that the arterial system must be free from any specific operation, before the effects of any other is to be seen; and to this the power of fever, in the prevention of diseases may be attributed. It is no objection to this, “that powerful epidemics chase away all other diseases, or force them to wear its livery,” whenever the violence of the cause is so great as in epidemics, it suspends the action of all the systems, and when they begin again to act whatever stimulus is strongest, agreeably a to law of the animal œconomy, will be alone perceived. Thus if tobacco, and cayenne pepper, be put into the mouth at the same time, the tobacco will not be perceived. This view

of fever will explain, why inoculation sometimes fails, because the patient laboured under fever without its being known; a remarkable fact of this kind occurred in the practice of Dr. Thomas of Maryland, my worthy preceptor in medicine, he inoculated a whole family for the small-pox, who did not sicken till the 21st day; as persons inoculated with the same kind of matter had it at the usual time, I am induced to suppose they laboured under fever without its being noticed. It was from this cause probably, hard drinkers who were constantly intoxicated, escaped the yellow-fever in 1793—they were constantly under fever from the diffusible stimulus of rum. I am led in this place to notice the question, whether the body can labour under two diseases at the same time.

The disputants in this as in many other questions long maintained without conviction, have been in turn both right, and both wrong. The human body may as certainly labour under two diseases at the same time, as there certainly are different systems, composing that body. It may labour under fever, leprosy, scrofula and lues, at the same time, the same may be said, of itch, tinea, capitis, and all the cutaneous diseases, which may exist with or without fever at the same time.—But they exist in this combination only as peculiar to different systems; for I would as soon suppose the body exempt from all diseases, as suppose any one system could have two different diseases at the same time, or in other words suppose the small-pox, and measles, could both exist together; this is clearly exemplified in the fact related by Dr. Hunter: He says that in a case which he had inoculated for the small-pox, the measles entirely suspended it, until the measles had left the body, when the small-pox

appeared—the contagion of the measles had begun to act previous to the introduction of the small-pox and had taken such exclusive hold on the arterial system that the variolus lay dormant, until the morbillous had worn itself out.

Madness particularly prevents other diseases. Perhaps the body is least disposed to disease, when it has least excitability.—One of the first symptoms of madness is a morbid insensibility to the action of all stimuli madmen, bear equally the extremes of heat and cold, and are scarcely moved by mechanical stimuli :—Since then it is the action of stimuli, which give rise to disease, the body may be said to be in the best state of prevention when it is in a state of madness ; and accordingly, we find that lunatics are exempt from all other disease, and sometimes live to a great age: madness however does not universally prevent disease. *Three of the maniacs in the *Pennsylvania Hospital*, had the influenza in 1789, and they are sometimes affected with diseases from the alternation of heat and cold. These facts however do not lessen the power of madness, in preventing disease, for as many lunatics have lucid intervals, so 'tis highly probable these diseases are taken in one of them. The hæmorrhoids have long been considered as preventive of other diseases ; the followers of Boerhaave taught this, and so great was their confidence in it, that the patient, who once had it was obliged to bear a loathsome disease, the rest of his life, because it was thought to be a drain for morbid matter. But it may more justly be explained upon the principles established, that the evacuation lessens the excitement, which, by accumulating, gives rise to disease.

* Dr. Rush's *Inquiries, and observations*, vol. 2.

Setons and issues, like the hæmorrhoids, prevent disease. Dr. Hodges affords in himself a strong proof of their advantage; the Dr. says he had one in his leg all the time the plague raged in London, and to that cause he attributes his escape from its deadly ravages. Whenever his system became surcharged with contagion, the seton inflamed and discharged more considerably. The gout is esteemed preventive of other diseases, and this becomes a source of comfort to the Podagric. Dr. Hilleary, in his diseases of Barbadoes, says a miliary eruption often prevented the yellow fever.

These facts are sufficient to establish the position, that one disease prevents another, any further enumeration of facts will therefore be unnecessary.

SECTION V.

2d. WHAT DISEASES HAVE CURED OTHERS, &c.

Solitary facts, of the cure of one disease by another, are to be found dispersed in most medical writings; but they are so unconnected with any principle, as to appear niched in, merely to increase the book. The first fact of this kind, perhaps was noticed by Hippocrates, who in his first book upon Epidemics, says. "The quartan fever is not accompanied with much danger, that it is easy to cure, and that it even cures several considerable diseases, as apoplexy, &c. If the fever (he adds) does not supervene, the Patient dies on the 7th. day." Again he says, "if a man loses the power of speech, when intoxicated, he recovers immediately upon the appearance of fever." Monsieur

De la Hire was subject to palpitations of the heart the cause of which was unknown, but after resisting every remedy, it was cured by a quartan fever. A member of Congress, from the state of Georgia, informed me, his wife's mother was cured of insanity, by breaking her arm, and has continued perfectly well ever since. Similar to this was the practice of Dr. Disportes of St. Domingo, who cured his patients of the yellow fever by large wounds in their legs.* The wife of a British officer had long been subject to the head ach; after her first child she became insane, and continued so till her head ach returned, which restored her to reason.† Willis, relates the case of a girl, who was subject to epilepsy, who in one of her fits, fell into the fire, and burned her face and head very much, but as long as the ulcers kept open, she was free from the disease: Hollereus, furnishes us with a similar example. A girl had from her infancy a sore on her head, it was suddenly healed, and she became epileptic, a variety of medicine was attempted without any effect, when she was cured by bringing back the discharge, by an application of beet leaves. Dr. Mead, relates a case of epilepsy, which occurred at the same period with the tides, and was cured by an ulcer on the head, the consequence of a blister.—‡ Fatuity in a child was cured by a large burn, and an idiot thirty five years of age became rational when labouring under a consumption.—§ Dean Swift was cured of madness while he had an abscess in his eye.|| An obstinate ulcer on the side was cured upon an attack of hemiplegia. Many chronic diseases have

* Dr. Rush's Lectures.

† Paracelsus. § Dr. Johnson's Life, of Swift.

|| Cels. Welser, observations on the stomach.

been cured by pleurisy—It has cured diarrhoea in a gentleman of this city. A patient who came to Philadelphia with consumption in order to prepare for a sea voyage which had been prescribed by his physicians, was cured by a pleurisy.—A similar case occurred in the hospital in Jan. 1794: James Young was admitted for consumption, and bled three times; soon after, he was seized with pleurisy, Dr. Rush, the attending physician, had him bled eleven times in six days, which cured him of both complaints. It may be said the bleeding cured him, but unless the disease had assumed the form of pleurisy, bleeding might not have been submitted to, though equally proper in the first as the second disease. Rheumatism cured consumption, in three cases in the hospital* the same disease has also been cured by hydrocephalus internus, and from a similar cause—the breast is relieved in that disease, whenever the pain is translated to the head.† Madness has cured consumption, so it has dropsy. In this place may be noticed the effect which pregnancy has in diseases; a maniac in the bettering house of this city was perfectly cured of her insanity while she was pregnant, but relapsed into her former state soon after delivery. Though pregnancy is not esteemed a disease, yet it can not be denied that the excitement is collected in a particular manner in the region of the uterus; whatever does this causes disease, which is an accumulation in other parts. Cutaneous diseases have been more particularly noticed, as curing others.—Cleghorn, in his diseases of Minorca, says, it happened in seven or eight patients, that an erisipelas appearing on the inferior extremities cured the fever, others were cured by a phlegmon. When-

* Dr. Rush's Inquiries, and observations, vol. 2.

† Dr. Mead.

ever the plague is cured spontaneously, it is by means of phlegmons. Dr. Rush, had a patient the last summer, 60 years of age, who recovered from his fever, as soon as an erisipelas appeared on his leg; this patient informed me, that this had been the termination of every fever he ever had. Pustulary eruptions, and blotches frequently relieve the pulmonary fever.* The same author observes, when the pustules broke out at the state of the disease, it relieved the patient, and ended in a desquamation of the scarf skin, this desquamation is observable in all diseases which have a specific determination to the skin, as small pox, measles, &c. The excitement, in this instance, is thrown upon the cutaneous system, and frees the arterial. When critical eruptions break out in madness, they give instant relief. Inoculation for the itch cured the epilepsy. A very remarkable case of the same kind is mentioned by Dr. Zimmerman, in his experience in physic. A gentleman, sixty years of age, had long laboured under spasmodic affections, and particularly of that stricture in the organs of respiration and intermission of the pulse attendant on angina pectoris; an herpetic eruption about the anus relieved him perfectly; the same kind of eruption relieved a patient who had been afflicted with vertigo and aura epileptica with a strong tendency to apoplexy. A worthy friend of mine about sixty, whose constitution was much injured by frequent attacks of gout, was freed from them by a pruritus around the anus; but the removal of it by strong applications of lead, contrary to my advice, destroyed him in a few days.† A coach-

* Huxham, of Epidemics, page 58. vol. 1.

† Dr. Lettsom Medical Memoirs.

man in this city was seized with headach, which incapacitated him from any employment, he said the jolting of the carriage gave him a sensation as if his brain was loose and shaking in his head ; after this sensation had continued some time, he became perfectly deaf ; but was relieved from those complaints by an eruption which broke out over his head—he wished to be cured of the eruption ; but Dr. Rush advises him to bear the present inconvenience. Dr. Woodhouse informed me, he had a patient last fall with the intermittent fever which resisted every medicine that could be devised, who was cured by the hysteria. Great pain in the penis was cured by a gonorrhœa virulenta after every medicine had failed and after Dr. Hunter had pronounced it incurable.* Blenorrhagia is also cured by the same disease. Strangury is of great advantage in the cure of other diseases. A physician in Maryland informed Dr. Rush he never lost a patient in pleurisy where he could produce strangury ; and the doctor adds in his lectures that he did not recollect ever to have lost a patient in fever of any kind, where blisters brought on that painful sensation. Joseph Groso, a West Indian, was cured suddenly of violent pneumonia, which had continued some time, by a strangury. Dr. Lettsom, in the medical memoirs mentions, a remedy for chin cough, which cured by causing strangury—The excellency of blisters, in the cure of diseases, has stamped such a value upon them, that they will never perhaps be forgotten in the practice of physic. Yet physicians are not determined upon their principle of action. One phy-

* James Burnet, surgeon, Medical memoirs.

fician applies them in all cases of pain, because pain is frequently destroyed by their application. A second prescribes them as antispasmodics, and should they aggravate the disease, which not unfrequently happens, their failure is attributed to the violence of the disease. A third considers them as stimulant and will only prescribe them in asthenic diseases. Blisters appear to me universally stimulant and the difference of effect at different times, must be ascribed to different states of Excitement, in the system. Perhaps medicine might be defined to consist in those things which produce disease when applied to the healthy body. This definition strictly applies to Blisters, which produce general and local disease applied to a body in health, but which give health to the same body when diseased. The same observation applies to the salivary disease which we shall next consider, and postpone the explanation of Blisters to another place. Mercury has been called very emphatically, the Sampson of the materia medica;* the praise is just; for the physician who can manage it, has a weapon with which he can destroy a host of diseases either of which, without mercury could destroy him. But its chief virtue depends upon producing the salivary disease. Salivation by mercury, probably originated in accident, and the good effect no doubt induced physicians to imitate it. From the knowledge now to be obtained, it appears to have been first regularly applied to the cure of lues. The success which attended its use, must have given to the discoverer a pleasure almost as sublime as were the felings of the physician who first discovered that purging and bleeding could cure the yellow fever. For its ravages were not less great. Nor can we

* Dr. Rsh's Lectures.

suppose that so valuable a remedy would soon go into disuse, and accordingly we find salivation was long esteemed the only cure of lues. But probably the morbid theory kept it in use, for it was consonant with their ideas, to esteem a medicine which evacuated the venereal matter. Accident which first discovered the remedy, in time convinced physicians salivation was unnecessary. 'Tis now sufficient to the cure that so much mercury be introduced into the body as shall by its stimulus throw the excitement from the lymphatic and glandular, into all the systems. I may be asked why if mercury cures lues by its stimulant quality, do not other stimuli cure it? I answer they do, as Opium and G. Guaacum; the first of which acts, only by equalizing the excitement. Though salivation is improper in lues, it is the Dei donum in other diseases. Chronic rheumatism which so frequently baffles other remedies, yields to the salivary disease. Lord Chesterville was cured of it by accidental salivation.

How happy must that physician be who discovers a remedy for paralytic extremities, hemiplegia epilepsy and madness, after frequently failing with the usual remedies. This remedy he will I think find in the salivary disease. The wife of Mr. John Hall of this city was cured of madness by salivation, under Dr. Rush's care after it had continued with different states of violence five years. She is now well and has lately brought him an heiress. Gout however proteoform submits to this remedy. I Buchanan was admitted in the P. Hospital last winter, with the gout; after taking mercury till his mouth was affected, he was cured. But its virtues do not rest with chronic diseases. The most acute diseases in the world

are equally under the power of salivation. Dr. Rush lost but one patient in the yellow fever who was salivated, and from the plague being cured by phlegmons I have no doubt the salivary disease would cure it. In short I might say of salivation with truth what has been falsely said of every quack medicine. But enough has been said for my purpose and to shew its value. I shall next attempt to shew the principle upon which salivation cures diseases, and from thence explain the facts above mentioned of one disease curing others. It has been said, blisters are the causes of diseases when applied to a healthy body, so is mercury when taken into it; in my first proposition health is made to consist in equal excitement; blisters then give an inequality to it, by accumulating it in the blistered parts. All pain consists in disproportioned excitement; as long therefore as pain continues, the excitement is accumulating from other parts and placed in that which is pained. It is no objection that the pulse is some times increased by them, this is invariably their first effect, for the excitement is conducted into the arterial system from the pained part, until it begins to be evacuated. A blister to the neck in bilious fever cures the insupportable headach, some times attendant on that disease, the excitement is determined from the head to the blister and there evacuated. This effect is eminently the case in salivation. In this the excitement is determined to the mouth in such quantity that all other accumulations are destroyed; besides the evacuation makes room for a succession of excitement until no enequality exists, but in the mouth; and herein we see the advantage it has over every other remedy, for no other accumulates the excite-

ment so long. Blisters require repetition and even then they do not evacuate so much. Let us now apply this to the explanation of the facts of one disease curing another, before enumerated.

Madness has for its proximate cause an accumulation of excitement in the brain ; the salivary disease throws it upon the mouth where it is then evacuated. It is no objection to the proximate cause ; that fever some times attends madness, it only shews the excitement to be accumulated in both systems, and were the whole to be accumulated in the arterial system, the head would be relieved. In this way the quartan fever cured the apoplexy. Epilepsy accumulates the excitement in the nervous and muscular systems ; salivation abstracts the accumulation and equalizes them. Salivation cures hydrocephalus, which is nothing more than an accumulation of excitement in the brain, it differs from other states of accumulation in this, that the excitement wastes itself by the evacuation of water, as in blisters. The salivary disease throws the excitement upon the mouth, and when there is no farther addition to the water, the lymphatics will be able to adjust the brain. Quere do not diuretics all act by abstracting excitement from the dropfical part and not by stimulating the absorbent system ? Chronic rheumatism depends upon excitement accumulated in the muscles ; the salivary disease places it upon the mouth. In short whatever diseases are cured by the salivary disease have for their proximate cause accumulation of excitement in the system where they are seated, and are cured by that excitement being placed in the mouth, and from thence wasted. But it is not necessary that the excitement should in every case be evacuated. 'Tis merely neces-

fary that it be accumulated in a part of less danger where, being less insulated, it more easily may be equalized ; this occurred in the cutaneous diseases which cured others ; Epilepsy melancholy and madness were cured by the itch, the accumulated excitement in those cases was placed in the cutaneous system, where if it did not equalize it could remain years, without detriment to the body—all the cases which have been enumerated of cutaneous diseases curing others are resolvable into the same explanation. Strangury cures disease by placing the excitement in the glandular system, and it shews, that to cure disease, we may accumulate excitement in parts of great importance. The pleurisy was cured by strangury in Groso ; although in doing it, the excitement was thrown upon the kidneys, a part much sooner disorganized than the pleura or lungs. Now the cause of the strangury is the blister, and as the effects of blisters in other parts, do not continue long, it appears that when strangury cures diseases by accumulating the excitement in the kidneys, it continues only a short time, but long enough to equalize the excitement, when it leaves the kidneys ; However if the disability should still continue in the part first affected, the excitement will again accumulate with greater danger. To this cause, may be attributed relapses, which are fresh accumulations in the part, which had remained in a state of predisposition. I might in this way have explained all the facts which have been mentioned, but as in the enumeration I omitted many which would have illustrated the proposition, so in the explanation, I am limited to a very few ; to consider them all would require many additional pages, and I have already exceeded the usual limits of a thesis.

SECTION VI.

3. THE APPLICATION TO PRACTICE.

This is so obvious as scarcely to require a comment. The facts which have been quoted, prove to a demonstration, the influence one disease has in the cure of another. This then may be applied to practice, that though patients would object to disease as a remedy in recent diseases; they might be induced to submit in old chronic diseases, where the exhaustion of hope leaves the mind less fastidious in the choice of remedies. It will also prevent the curing of those diseases which occur in the body with others, and which left may be attended with the happiest consequences. Nor need I mention the diseases in which this practice would be important; If it were only applied to the cure of those cases which had gone the routine of medicine, we might probably lessen the burden of poor, disordered, suffering humanity.



Med. Hist.

WZ

270

A375i

1795

C.1

★ ★ ARMY ★ ★
MEDICAL LIBRARY
Cleveland Branch

